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Spinal Cord Assessment Tool for Spastic Reflexes (SCATS)

Availability:	This instrument is freely available here: The Rehabilitation Measures Database Link
Classification:	Exploratory: Spinal Cord Injury (SCI) and SCI-Pediatric
Short Description of Instrument:	<p>Construct measured: Spasticity</p> <p>Generic vs. disease specific: Disease specific</p> <p>Means of administration: Typically administered by a clinician</p> <p># of subscales and names of sub-scales: 3; 1 Ankle clonus; 2 Flexor reflex spasm; 3 Extensor reflex spasm.</p>
Comments/Special instructions:	<p>Scoring:</p> <p>Clonus is rated on a 4 point scale:</p> <p>0 = No reaction</p> <p>1 =Mild lasting <3sec</p> <p>2 = Moderate lasting 3–10 seconds</p> <p>3 = Severe lasting > 10 seconds</p> <p>Flexor spasms are rated on a 4 point scale that ranges from:</p> <p>0 = No reaction</p> <p>1 = mild, less than 10 degrees of excursion in flexion at knee and hip, or extension of the great toe</p> <p>2 = moderate = 10–30degrees of flexion at knee and hip</p> <p>3 = Severe with >30 degrees of hip and knee flexion</p> <p>Extensor spasms are rated on a 4 point scale;</p> <p>0 = No reaction</p> <p>1 =Mild lasting <3sec</p> <p>2 = Moderate lasting 3–10 seconds</p> <p>3 = Severe lasting > 10 seconds</p>
Rationale/Justification:	<p>Strengths/Weaknesses: The SCATS scale measures 3 distinct components of lower extremity spasticity: 1) Ankle clonus; 2) Flexor reflex spasm; 3) Extensor reflex spasm. As such, it can in some ways be considered an extension of the Modified Ashworth Scale in that it goes beyond the measurement of velocity dependent reflex twitch to the self-sustaining spasm aspect of hyper-excitability of the central motor system. It requires no specialized equipment and little specific training for a clinician to administer. Although there is relatively little experience with application to clinical trial outcomes, it could be reasonably explored as an addition to the limitation of the Modified Ashworth Scale.</p> <p>SCI – Pediatric:</p>

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	Relevant and appropriate for children; pinprick may be problematic in young children as found by Mulcahey et al. (2011). Future research is needed.
References:	<p>Benz, E. N., Hornby, T. G., Bode, R. K., Scheidt, R. A., & Schmit, B. D. (2005). A physiologically based clinical measure for spastic reflexes in spinal cord injury. <i>Arch Phys Med Rehabil</i>, 86(1), 52–59.</p> <p>Hsieh, J. T., Wolfe, D. L., Miller, W. C., & Curt, A. (2008). Spasticity outcome measures in spinal cord injury: psychometric properties and clinical utility. <i>Spinal Cord</i>, 46(2), 86–95.</p> <p>Kumru, H., Murillo, N., Samso, J. V., Valls-Sole, J., Edwards, D., Pelayo, R., . . . Pascual-Leone, A. (2010). Reduction of spasticity with repetitive transcranial magnetic stimulation in patients with spinal cord injury. <i>Neurorehabil Neural Repair</i>, 24(5), 435–441.</p> <p>Mulcahey, M. J., Gaughan, J. P., Chafetz, R. S., Vogel, L. C., Samdani, A. F., & Betz, R. R. (2011). Interrater reliability of the international standards for neurological classification of spinal cord injury in youths with chronic spinal cord injury. <i>Arch Phys Med Rehabil</i>, 92(8), 1264–1269.</p>